

WHAT IS CLAIMED IS:

1. A method for recording and erasure of images using rewritable thermal label of a non-contact type which comprises a heat-sensitive color development layer comprising a leuco dye and a long chain alkyl-based color developing agent and a light absorption and photo-thermal conversion layer which are laminated on one face of a substrate successively, the heat-sensitive color development layer being placed next to the substrate, and an adhesive layer laminated on an other face of the substrate, wherein an absorptivity of laser light used for the recording with a surface of the label is 50% or greater, the laser light irradiating the surface of the label for the recording has a wavelength in a range of 700 to 1,500 nm and an amount of energy of irradiation in a range of 5.0 to 15.0 mJ/mm<sup>2</sup>, a product of the amount of energy of irradiation of the laser light and the absorptivity of the laser light during the recording is in a range of 3.0 to 14.0 mJ/mm<sup>2</sup>, and a product of an amount of energy of irradiation of the laser light and an absorptivity of the laser light with the surface of the label during the erasure is 1.1 to 3.0 times as great as the product of the amount of energy of irradiation of the laser light and the absorptivity of the laser light during the recording.
2. A method according to Claim 1, wherein, during the erasure of images, the surface of the label is heated within 4 seconds after irradiation with the laser light for the erasure is started.

3. A method according to Claim 1, wherein the absorptivity of light with the surface of the label is in a range of 50 to 90% and the method is used for recording images into labels in which the recorded images are read using reflected light.

5

4. A method according to Claim 2, wherein the absorptivity of light with the surface of the label is in a range of 50 to 90% and the method is used for recording images into labels in which the recorded images are read using reflected light.

10

5. A method for recording and erasure of images using rewritable thermal label of a non-contact type which comprises a heat-sensitive color development layer comprising a leuco dye and a long chain alkyl-based color developing agent and a light absorption and photo-thermal conversion layer which are laminated on one face of a substrate successively, the heat-sensitive color development layer being placed next to the substrate, and an adhesive layer laminated on an other face of the substrate, wherein an absorptivity of laser light used for the recording with a surface of the label is 50% or greater, the laser light irradiating the surface of the label for the recording has a wavelength in a range of 700 to 1,500 nm and an amount of energy of irradiation in a range of 5.0 to 15.0 mJ/mm<sup>2</sup>, a product of the amount of energy of irradiation of the laser light and the absorptivity of the laser light during the recording is in a range of 3.0 to 14.0 mJ/mm<sup>2</sup>, a light irradiating the surface of the label for the erasure is ultraviolet light or near infrared light, and a product of an amount of energy of irradiation of the ultraviolet light or the near infrared

15

20

25

light and an absorptivity of the ultraviolet light or the near infrared light with the surface of the label during the erasure is 1.1 to 3.0 times as great as the product of the amount of energy of irradiation of the laser light and the absorptivity of the laser light during the recording.

5

6. A method according to Claim 5, wherein the light irradiating the surface of the label for the erasure is ultraviolet light having a wavelength in a range of 200 to 400 nm or near infrared light having a wavelength in a range of 700 to 1,500 nm.

10

7. A method according to Claim 5, wherein, during the erasure of images, the surface of the label is heated within 4 seconds after irradiation with the ultraviolet light or the near infrared light for the erasure is started.

15

8. A method according to Claim 6, wherein, during the erasure of images, the surface of the label is heated within 4 seconds after irradiation with the ultraviolet light or the near infrared light for the erasure is started.

20

9. A method according to Claim 5, wherein the absorptivity of light with the surface of the label is in a range of 50 to 90% and the method is used for recording images into labels in which the recorded images are read using reflected light.

25

10. A method according to Claim 6, wherein the absorptivity of light with the surface of the label is in a range of 50 to 90% and the method is used

for recording images into labels in which the recorded images are read using reflected light.

11. A method according to Claim 7, wherein the absorptivity of light with  
5 the surface of the label is in a range of 50 to 90% and the method is used for recording images into labels in which the recorded images are read using reflected light.
  
12. A method according to Claim 8, wherein the absorptivity of light with  
10 the surface of the label is in a range of 50 to 90% and the method is used for recording images into labels in which the recorded images are read using reflected light.